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MAY 23.

The President, Dr. LEIDY, in the chair.

Forty-four persons present.

On Bacillus anthracis.—Prof. LEIDY stated that Dr. Robert Gladfelter, veterinary surgeon, had submitted to his examination a bottle of blood from a cow. The animal, apparently well on Wednesday, May 10th, and milked the same evening, died the next morning. The cause was not clear but was suspected to be the result of anthrax, charbon, or splenic fever. During the past year a number of cows in the same herd, had died in a similar manner, in Salem Co., N. J. A post-mortem examination was made the following day; and the abdominal viscera were found much congested; especially the spleen, which was gorged with blood. The specimen of blood, obtained from the spleen was examined the next day, Friday. It teemed with Bacteria, the peculiar form, *Bacillus anthracis*, which is now viewed by most competent authorities as the cause of the frightful affection known as anthrax or splenic fever. The Bacilli were actually more numerous than the blood corpuscles, which appeared unchanged. The Bacilli were completely motionless; straight, bent or zigzag filaments, in the latter condition in pairs or more segments. They measured from 0.006 to 0.042 mm. in length; usually from 0.012 to 0.03 mm. Kept for some days in the blood the filaments underwent division into little chains in two, three, or more dumb-bells, which measure about 0.005 mm., or into isolated micrococci-like particles about 0.0015 mm. Many however of the filaments did not resolve themselves into these minute particles, but appeared only to grow in length and divide into segments of about 0.012 mm. in length.

On Enchytræus, Distichopus and their parasites.—Prof. LEIDY remarked that occasionally in lifting a flower-pot or in stirring the earth within, attention is sometimes attracted by the sudden wriggling of a little white worm disturbed from its rest. In the *Archiv für Anatomie*, 1837, Henle has given an elaborate description of the worm and named it *Enchytræus* in reference to its familiar habitation. The little pot worm is common in our vicinity, especially in damp forests under decaying leaves and timber. It was first noticed in 1773 from Denmark by O. F. Müller, and in 1880 from Greenland by Fabricius. It has also been observed in France and Germany; and therefore the little worm appears to extend over the northern parts of Europe and America.

The same worm I have found in the meadows of Atlantic City, New Jersey, in the usual haunts of *Melampus bidentatus* and *Orchestia agilis*. In mature specimens, about three-fourths of an inch in length, the girdle is well produced, and the body has ten setigerous segments in advance of it and about forty-five behind it. The short pointed setapeds in four longitudinal rows, are in fascicles of three or four to each, in advance of the girdle and two or three to each behind it.

In the *Enchytræus* of our forests I have repeatedly observed an infusorial parasite, occupying the body cavity, sometimes in considerable numbers, mingled with the normal discoid corpuscles. I propose to name it *Anoplophrya modesta*. In the *Enchytræus* of the meadows of Atlantic City I observed a different infusorian, occupying the same cavity, remarkable for its great proportionate length. This I propose to name *Anoplophrya funiculus*.

Wishing to ascertain whether the latter did not likewise infest the *Enchytræus* of our neighboring forests I recently collected a number of little worms at Media, Del., Co.. These I obtained from beneath a stone lying in my path to Swarthmore College. They appeared to be robust specimens of *Enchytræus vermicularis*, for which I took them to be. Investigation at home proved them to be different and generically distinct from previous known forms. The worms possess but two rows of setapeds, instead of four as in most others of the family. Hoffmeister and Gruby described the genus *Phreoryctes* as having only two rows of setapeds, but Leydig has shown this to be an error. In view of the error I carefully repeated my examination of the little worms from Media, and am convinced that they possess two rows of setapeds, while in *Enchytræus* I always found four. So much do the former otherwise resemble the latter that it would appear as if they formed a genus directly evolved from *Enchytræus* merely by the suppression of a pair of the four rows of setapeds.

The new genus presents the following characters and may be indicated by the accompanying name.

DISTICHOPUS. Form and color as in *Enchytræus*; with a well produced girdle. Setapeds in a single row on each side ventrally, in divergent fascicles of four in advance of the girdle and of three behind it.

DISTICHOPUS SILVESTRIS. Body cylindrical, white, translucent, with a well produced girdle of whiter color. Upper lip short conical blunt; anal segment thicker than the penultimate, brownish and punctate; anus quinquiradiate. Ten setigerous segments in advance of the girdle, with fascicles of usually three or four setapeds; fifty-five setigerous segments behind the girdle, with usually two or three setapeds. Oral and anal segments without setapeds. Setapeds shorter and stouter than in *Enchytræus vermicularis*, curved at the root, swollen at the middle, and straight towards the point. Length from nine to fifteen lines.

I observed no infusorian in *Distichopus*, but in most of those examined there were found within the intestine minute Gregarines

allied to the *Monocystis* of the earth worms, *Lumbricus*. This parasite was perfectly quiescent and was especially remarkable from its frequently containing a variable number of curved elliptical bodies, which I suspect to be spores. Viewing it as a species of *Monocystis* it may thus be briefly characterized.

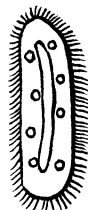
MONOCYSTIS MITIS. *Gregarina Enchytræi*? Kölliker. Body fusiform, tapering posteriorly and usually acute, anteriorly obtuse or produced into a short mammilla; contents of the usual granular protoplasm as in gregarines, with a central spherical nucleus and nucleolus. Size ranging from .03 mm. to .12 mm. in length. In the smallest individuals the nucleus was indistinct and in some appeared to be absent. The larger ones mostly contained what I supposed to be spores. These are curved elliptical bodies .015 mm. long by .0045 mm. wide, and were collected in a group of usually two or three to seven or eight, sometimes in advance of the nucleus, and sometimes behind it.

The two Anoplophrya above indicated have the following characters.

Monocystis mitis, 333 diam.

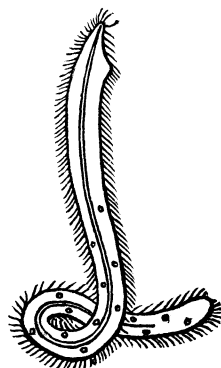


ANOPLOPHRYA MODESTA. *Leucophrys*. Jour. Ac. Nat. Sc. 1850, 49, pl. 2, fig. 17. Elongated elliptical, anteriorly rounded, posteriorly somewhat truncated, usually from three to five times the length of the breadth; nucleus axial, cylindrical, straight, extending about two-thirds the length of the body; contractile vesicles variable in number and usually in two longitudinal rows. Length from .048 to .12 mm.; breadth .018 to .024 mm. In state of transverse division, the pairs range from .054 to .15 mm. in length. Common and numerous in the body cavity of *Enchytræus vermicularis*.



Anoplophrya modesta, 350 diam.

ANOPLOPHRYA FUNICULUS. Long, narrow and ulna-like in shape, from twenty to thirty times the length of the breadth; anterior extremity slightly wider and very obliquely truncated and slightly depressed; posterior extremity bluntly rounded. Nucleus axial, bristle-like, appearing as a double continued line reaching from the posterior end of the body and tapering to a single line in the posterior part of the same. Contractile vesicles minute, in two rows, variable in size and usually occupying the posterior part of the body. Length 0.42 mm. to 0.6 mm. by 0.018 to 0.024 mm. wide. Young individuals 0.15 mm. long by 0.024 wide, were tapering in front and obtuse while they were wider and rounded behind. Inhabiting the body cavity of *Enchytræus vermicularis* from the meadows of the Atlantic coast of New Jersey.



A. funiculus, 175 diam.

In an earth worm, *Lumbricus*, species undetermined and occurring under logs, in the forests in the vicinity of Philadelphia, I detected another species of the above which may be distinguished as follows.



A. melo,
250 diam.

ANOPLOPHYRA MELO. Oval or ovoid, scarcely twice the length of the breadth, with the narrower pole mucronate; nucleus axial, cylindrical, sigmoid, about two-thirds the length of the body; contractile vesicles usually one, or two, or none, large. Length 0.048 mm. to 0.08 mm., breadth 0.032 to 0.04 mm. Pairs in state of transverse division 0.08 by 0.036 mm. to 0.084 by 0.04 mm. Inhabiting the body cavity of *Lumbricus*?

The Rev. Henry C. McCook, D.D., was elected Vice-President and Jacob Binder was elected Curator to fill vacancies caused by the death of Wm. S. Vaux.

Thomas A. Robinson was elected a member of the Council, to fill the vacancy caused by the election of the Rev. Dr. McCook to the Vice-Presidency.

MAY 30.

The President, Dr. LEIDY, in the chair.

Twenty-eight persons present.

The Yellow Ant with its flocks of Aphis and Coccus.—Prof. LEIDY stated that since he had made a communication, published in the Proceedings of April 10th, 1877, on the habits of the Yellow Ant, from time to time, in seeking for other animals, he had incidentally learned that the species is not only a common one of our vicinity, but also that it was habitual with the ant to care for the same two species of *Aphis* and *Coccus* originally noticed in company with it. The ant workers, of the species *Lasius interjectus*, are of a uniform bright amber color, shining and hairy, and measure about $3\frac{1}{2}$ millimetres long.¹ The *Aphis* is white or pale yellowish and covered with a white waxy secretion, has brownish legs and proboscis, no honey tubes, and is about $2\frac{1}{2}$ mm. long and 2 mm. wide. The *Coccus* is red with some whitish waxy secretion and is from three-fourths to one millimetre and one-half in length.

On the third of May, near Swarthmore College, Del. Co., a nest of the yellow ants was observed beneath a flat stone, about one

¹In the original communication the ant was named *Formica flava*, but the Rev. Dr. McCook has determined it to be as here stated.